

[0002]

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Original) A liquid filtering apparatus comprising:
 - a washbox;
 - an airlifting tube, extending from the washbox, comprising:
 - an expulsion end within the washbox; and
 - an intake at a lower end opposite from the washbox;
 - a central pipe extending along an outside surface of the airlifting tube from a position just below the washbox to a position just above the intake end;
 - an effluent riser pipe extending along an outside surface of the central pipe from a position just below the washbox to a position above the intake end;
 - an effluent chamber defined by the outer surface of the central pipe, a bottom plate of the effluent riser pipe, an upper plate of the effluent riser pipe, and an inner surface of the effluent riser pipe;
 - at least one screen cartridge in communication with a lower portion of the effluent chamber, the screen cartridge oriented in a generally angular downward direction;
 - a reject outlet pipe communicating the washbox with a reject box; and
 - an effluent collector communicating the effluent chamber with a location outside of the liquid filtering apparatus.

2. (Original) The liquid filtering apparatus according to claim 1, wherein the liquid filtering apparatus is placed in a vessel having a bed of filtration material and an intake for introducing unfiltered liquid into an upper region of the vessel.

3. (Original) The liquid filtering apparatus according to claim 2, wherein the filtration material is selected from the group consisting of sand, anthracite, ceramic beads and granular activated carbon.

4. (Original) The liquid filtering apparatus of claim 2, wherein the liquid is water or wastewater.

5. (Original) The liquid filtering apparatus of claim 1, wherein the intake at the lower end of the airlifting tube is a hollow bell-bottom shape.

6. (Original) The liquid filtering apparatus of claim 1, wherein the washbox comprises a filter media shield hood attached to an upper portion of the washbox, above the expulsion end of the airlifting tube, a washbox skirt below the filter media shield hood, a washbox isolator at the bottom of the washbox skirt, and at least one inlet tube at a bottom portion of the washbox skirt.

7. (Original) The liquid filtering apparatus of claim 6, wherein the washbox further comprises a target plate below the filter media shield hood and above the washbox skirt.

8. (Original) The liquid filtering apparatus of claim 6, wherein the filter media shield hood is an airlift return cap.

9. (Original) The liquid filtering apparatus of claim 6, wherein the washbox further comprises a porous separation cone below the filter media shield, a dirtied liquid reject collection tray below the separation cone, and a second reject outlet pipe communicating the dirtied liquid reject collection tray with the reject box.

10. (Original) The liquid filtering apparatus of claim 1, wherein the reject outlet pipe includes at least one valve.

11. (Original) The liquid filtering apparatus of claim 1, wherein the effluent collector includes at least one valve.

12. (Original) The liquid filtering apparatus of claim 1, wherein the reject box comprises a weir volume space defined by a bottom side, a riser side and a weir plate, an outlet side comprising an outlet, and a vertical pipe communicating with the weir volume space by way of a riser outlet.

13. (Original) The liquid filtering apparatus of claim 12, wherein the height of the weir plate may be adjusted to vary the volume of the weir volume space.

14. (Original) The liquid filtering apparatus of claim 13, wherein the weir plate comprises a V-shaped notch along a top side of the weir plate.

15. (Original) The liquid filtering apparatus of claim 2, wherein the effluent collector is positioned above the vessel.

16. (Original) The liquid filtering apparatus of claim 1, wherein the airlifting tube is disposed in a generally centered position within the central pipe by way of one or more internal guide vanes.

17. (Original) The liquid filtering apparatus of claim 2, wherein the vessel is an existing basin with no installed piping, the liquid filtering apparatus is retrofitted to the existing basin, and no holes are cored into the existing basin.

18. (Original) The liquid filtering apparatus of claim 1, wherein the screen cartridge is fluidly connected to the effluent chamber by way of a cartridge connector.

19. (Original) The liquid filtering apparatus of claim 1, wherein the screen cartridge forms an angle with the effluent riser pipe.

20. (Original) The liquid filtering apparatus of claim 19, wherein the angle is less than 90°.

21. (Original) The liquid filtering apparatus of claim 2, wherein the depth of the filtration material above the screen cartridge is at least 40 inches (102 cm).

22. (Original) The liquid filtering apparatus of claim 1, further comprising a sand cone attached to the bottom plate of the effluent riser pipe and terminating above the intake end of the airlifting tube, the sand cone having a sand cone space defined by the bottom plate of the effluent riser pipe, an inner surface of the sand cone, a sand cone bottom plate, and the outer surface of the central pipe.

23. (Original) The liquid filtering apparatus of claim 22, further comprising silt tubes connecting a bottom portion of the at least one screen cartridge to the sand cone space.

24. (Original) The liquid filtering apparatus of claim 22, further comprising a sand cone flush tube extending from the sand cone space to an area above the effluent collector.

25. (Original) The liquid filtering apparatus of claim 11, further comprising a back flush pipe extending from the effluent collector at a point between the effluent chamber and the valve to a point above the washbox skirt.

26. (Original) The liquid filtering apparatus of claim 11, wherein said at least one valve is a telescoping valve.

27. (Original) The liquid filtering apparatus of claim 1, wherein the effluent collector is connected to an effluent header.

28. (Original) The liquid filtering apparatus of claim 12, further comprising a pipe extending from the outlet of the reject box to a reject manifold.

Claims 29-46 (Cancelled).

47. (Original) A liquid filter assembly comprising two or more of the liquid filtering apparatus of claim 1, wherein a reject outlet pipe extends from the outlet of each of the respective reject boxes to a common reject manifold and each of the effluent collectors connects to a common effluent manifold.